

*Leu. Coffin*  
*1857.*

SPECIFICATION  
OF MATERIALS AND WORK  
FOR THE  
ERECTION AND BUILDING  
OF THE  
CHURCH OF THE HOLY TRINITY.  
PHILADELPHIA.

## Specification of Materials and Work for the Erection and Building of the Church of the Holy Trinity, Philadelphia.

Specification of Materials and Work for erecting and building a Church edifice on the lot of ground on the south side of Walnut street, opposite to the north-west corner of Rittenhouse Square, in the city of Philadelphia, to be called The Church of the Holy Trinity. Also, together with a School building attached on the west end of said Church.

These edifices to be built and finished according to the design and drawings approved and adopted by the corporation of said Church, as made by John Notman, architect; the work to correspond with the sizes and dimensions as thereon drawn and measured by the scale; and with the following specifications, to wit:

### Specifications.

#### CELLAR.

The whole space under the floor level to be excavated to the depth of seven feet clear, under the lower edge of joists. The foundation trenches for all the walls to be dug out one foot below the floor of the cellar, and as much deeper as may be necessary to obtain a sound and solid foundation; it being understood that whatever depth it may be necessary to excavate said trenches to reach a solid and unyielding foundation below that above specified, shall be deemed as extra; and the labor and materials required shall be measured, valued and paid for in addition to the contract price, as extra work; the same being provided for as such in the contract.

## STONE MASON.

The foundations of the walls to be commenced level, with footings projected on each side, three inches (3 in.) beyond the stated thickness of the walls; the first courses of stone to be laid in a bed of thin mortar, spread all over the trenches.

The walls to the height of the pavement line will be built on the Flanks, three feet six inches (3 ft. 6 in.) thick, with buttress projections of four feet by four feet six inches (4 ft. by 4 ft. 6 in.); the cross walls three feet (3 ft.) thick; the wall on each side the large front door six feet (6 ft.) thick; the tower walls seven feet (7 ft.) thick, with buttress projections; the turrets to be two feet six (2 ft. 6 in.) inches thick; the north and south walls of the school to be three feet (3 ft.) thick; the west wall to be two feet three inches (2 ft. 3 in.) thick; the east wall, the chancel walls, and the lobby walls will be two feet (2 ft.) thick each.

Foundation walls of two feet six inches (2 ft. 6 in.) thick, will be built for the north porch, and for each set of steps at the doors. A cellar door-way will be built, with stone steps and curbs on the south side of the Church.

The mortar to be made of fresh, wood-burned lime, and clean sharp screened gravel; the stones to be laid flat on their natural beds, well bonded and bedded in the mortar. The stone to be as good as Leiper's or Agnew's of this vicinity.

## STONE.

The level of the floor of the Church will be two feet four inches, (2 ft. 4 in.) above the regulated pavement at the centre door in front or east end.

The walls above the ground will show first a graduated base in two, three and four courses, to suit the fall of the street; the upper course set level with the floor; worked with bead and chamfer; the second course chamfered, and the courses required to make the height to be chamfered on their upper



edges; this base to be continued around the north, east and south front of the Church to the first buttress on the projection for stairs; from thence the south side of Church and School will have course of chamfered base. The tower will have a super base of one (12 in.) foot high, moulded. The north front of School a water table chamfered.

The walls on the flanks will be two feet nine inches (2 ft. 9 in.) thick to the string course; from thence two feet six inches (2 ft. 6 in.) to the eaves courses; the wall on each side of the centre door will be five feet (5 ft.) thick, and will be diminished to two feet six inches (2 ft. 6 in.) over the arcade.

The buttresses to have set-offs in one stone each above the spring of the roof, and terminate at the cornice chamfered on projections.

The cornice will consist of an arch or corbelled course, a ball flowered course, and coping course; the last in not less than five feet (5 ft.) lengths. This cornice will extend on the north, east, and south sides of the Church around the stair tower; from thence the south side of the Church will have a plain corbelled course with coping course.

The window jambs on north flank will be in two sinkings of six inches (6 in.) each, chamfered; the jambs on south flank to be chamfered plain.

The window sills will be one stone in length with head on each end for reveals, bevelled between, to nosing of two inches projection from face of wall.

The centre door will be recessed in four sinkings, each having a shaft, cap and base, relieved two-thirds diameter; the caps to be floriated, and the arch to be carved in each sinking with surface ornament. A string course on corbels carved in low relief will form the base to the arcade over the door. The shafts of the arcade will be ten (10 in.) inches diameter, with floriated caps and moulded bases; the architraves cut in two sinkings on surface, entwined from shaft to shaft; a ball flower cornice over these with roof of three or four courses set off. The circular window will have shafts carrying outer

arch with quarter round twist moulding, with cusps in stone. The gable to be finished in level and inclined cornices, similar to that on north flank, with an additional course over the centre moulded one foot (12 in.) thick.

The side doors will be recessed in two sinkings, to have shafts and arches as described for centre door; the windows over these doors as well as the lower window on the north side of tower, will have jamb and centre shafts of stone with caps and bases and one member carved in the arches. The line of principal cornice will be continued as a string course around the tower and turrets. The south-east angle of the Church from the turret to the buttresses, north and west of it will be terminated with gables over parapet on flank and front. The tower will have a gable on three faces enclosing circular windows, moulded with cusps. The School will have a similar gable in front. The turrets will have the upper stage of them in shafts on the angles with arches and cornice. The terminals to buttresses and centre on the gable, will be of stone for flues with gabled heads.

The north porch will have two shafts to support arched cover, in one stone front, the flanks corbelled, roofed with slate. The tower to be built to the height of eighty-four (84 ft) feet in all, and will have the angles over the gables resolved into octagons; between which this stage will be worked in shafts with caps and bases, with arched heads sinking twelve inches (12 in.), with four loop lights on each face of tower. A cornice and parapet paneling will complete this stage. The two floors above the stairs will rest on hammered corbels of stone projected inside of the tower.

The steps of the four stairs on the plan will be of stone hung in the walls and rabbeted on each other. The floors and landings to be stone pavement on iron joists and arches. The stairs at the south-east and north-west, will be continued in steps of stone to the cellar. The vestibule to be paved with stone flags laid diagonally.

The exterior walls of the Church and School, on the north, east, and south fronts, and all the exterior of the tower, will



be faced with brown sandstone, equal in quality to that from the quarries at Portland, Connecticut; of sound liver rock, free of shale and loose beds, and backed with rubble stone, equal to Leiper's or Agnew's in this vicinity; and to be laid on their natural beds, well bonded together, and laid at the same time.

The style of finish upon both buildings is to be hammer-dressed work, with tooled draught on vertical and horizontal lines and angles, wrought straight for plumbing and levelling. The shafts of stone at doors, arcade and east front windows, and north window of tower, the steps of the stairs from the first floor to the gallery, together with the stone pavement interior as described, to be rubbed work; all other flat surfaces to be hammer-dressed or pointed off. The quality of work in dressing and setting the stone on the north and east fronts, and on the south flank to the depth of the stair tower, to be equal to that on the north front of Calvary church, or the south front of St. Mark's church in Locust street, except the window jambs of flanks, which are not to be rubbed work in this church, as in those churches.

And the south front, from the stair tower westward, will be equal, in stone, dressing and setting, to the south end of Calvary Church.

The mortar to be of wood burned lime, and clean, sharp gravel or sand, well beaten and worked together before being used. The joints to be neatly pointed, after the roof is on, with well made mortar, tinted like the stone. The joints in the cut work not to exceed one-fourth of an inch, and in hammer-dressed work not more than half an inch in thickness.

### BRICK AND FLAGS.

The east and west walls of the School will be built of brick, thirteen (13) inches thick. The wall forming the Chancel, with the lateral walls of western staircases, to be built of brick, nine (9) inches thick. Flues for heating and ventilation to be built in those walls, well parged smoothly inside of

them; one to each of the four rooms on first floor, and four flues to the second and third stories. The east and west walls will be coped with stone flags above the roof. The chimneys and flues to be topped out in stone flags. Brick piers of three bricks in length, square, built solid, will be carried up in the cellar of School and Church, at each bay of twelve (12) feet, for the support of floor girders and iron columns.

The privies, on the south-west corner of lot, to be built of brick, over a sink or drain, with six apartments of three feet six inches (3-6) square interior of each. The alley way on the south to be paved with best paving brick, laid on a bed of gravel two (2) feet deep, with gutters for water shed east and west.

The pavements on the street fronts north and east of the whole lot of ground, one hundred and sixty-four (164) feet on Walnut street, by one hundred (100) feet on the Square, will be laid with North river flags, of clean, straight surface, not less than forty (40) feet superficial each, on a bed of stone chips and gravel not less than three (3) feet deep, with a dressed curb of nine inches by three feet deep (9 in. by 3 ft.), of granite, to all the front, and a stone gutter.

### CARPENTER.

The floor to be of spruce timber joists, in four lengths of twenty (20) feet, across the Church, pinned together where they lap over the beams; to be three by twelve (3 by 12) inches scantling, set not farther apart than sixteen (16) inches from centre to centre on the walls. These joists will rest on beams of three joists, making nine by twelve (9 by 12) inches, pinned together with the centre joist, as on margin, one inch (1 in.) above the others, to notch the lateral joists on. These beams or girders will bear on brick piers, twenty-seven (27) inches square, at each bay of twelve (12) feet. On the sides of the joists will be nailed shingling lathe to receive boards cut in between the joists, to carry deafening or pugging mortar. Each bay of joists to be bridged from end to end



with herring-bone bridging, of two by three (2 by 3) inch stuff, all well nailed, fitted and fastened. The floor under the seats in the church will be raised four (4) inches, by small joists of three by four (3 by 4) inches, set at the same distance apart across the main joists, bordered with a curb of four by four (4 by 4) inches, planed and finished, into which curb the ends of the seats will be tenoned and fastened.

The chancel floor will be raised three steps (finished and nosed) above the floor of the church.

The Galleries of the north and south sides to be supported on strongly framed truss brackets, at each buttress, of eight by ten (8 by 10) inches, white pine, bolted and anchored in the walls through the spandrels of them; to be open panelled, all planed and finished for painting, and set on stone corbels. The Organ Gallery will be supported on shafts of cast iron, embraced in wood shafts of finish to the principal vestibule, as shown in longitudinal section.

The floors of Church and galleries to be laid in best quality of Carolina boards, worked five-quarters of an inch thick (1½ inch), well seasoned and clear of sap wood, large knots and wind shakes. The School will have joists of length to cross it from east to west on each floor, supported in the centre on continuous girders, as described for the Church, which will rest on brick piers in cellar, and on iron columns of six (6) inches diameter in upper stories; the floors to be bridged and deafened as in the church, and laid with equal quality of floor boards. The first story to be divided into four rooms, by framed partitions, communicating by doors; the second and third stories to be in one room each.

Each story to have access from the stairs on each side of the chancel, at western end of Church.

The roof of the Church to be framed of white pine timber of the following sizes:—Rafters, ten by fifteen (10 by 15) inches; posts and collar beam, ten by twelve (10 by 12) inches; the curved braces to be built in three thicknesses, to be twelve by eighteen (12 by 18) inches over all; the sul-



curved braces, forming the ceiling outline; will show half their depth; and will be planed and moulded on the edges so seen, with bead and scotia mouldings, with turned and carved bosses to their points of intersection; the purlins to be nine by ten (9 by 10) inches, cleated on the rafters; the jack or small rafters to be three by five (3 by 5) inches, notched on the purlins, wall plates and ridge same size as purlins; the roof will be close boarded over all for slate.

The ceiling will be formed as shown on sections, vaulted in the centre, with lateral inclined vaults intersecting it over each window, between the main rafters; all which will be furred to the shapes for plastering at sixteen (16) inches from centre to centre. The ceiling over the organ gallery will be semi-circular. The ceiling over the chancel will be semi-domical formed on polygon, with semicircular centre light, framed at its apex. The ceilings of vestibules, stairs, &c., will be formed in groin arches for plastering.

The Roof of the School will be framed as shown on section, with rafters of three by nine (3 by 9) inches, ceiling joists three by eight (3 by 8) inches, with posts and braces same size, set on the walls not further apart than twenty-one (21) inches from centre to centre, close boarded over all for metal covering, and hipped on north and south ends for slate cover. The Chancel will have rafters of three by twelve (3 by 12) inches on hips, with cripples of two by twelve (2 by 12) inches, with a strong curb framed to the centre light.

The Pews in the Church to be two feet ten (2 ft. 10) inches high on the backs, having a slope of four (4) inches, back board one (1) inch thick, seat boards one and a half ( $1\frac{1}{2}$ ) inches thick, fourteen (14) inches wide; the ends and doors to be of two (2) inch plank, moulded and coped with walnut; the backs to have strong moulded coping of walnut wood, grooved on the back board.

The outside doors to be covered with framed surface of walnut, with raised bilection mouldings in panels. The inside doors will be flush framed, covered with cloth.

The window frames to be made for double hung sash on

pullies, to slide up and down, with inside and outside casings to those of the Church, of two (2) inch plank. Those of the School to be made as usual, reveal frame with a bead moulding. All the windows in the School to have inside shutters, or blinds, folded into jamb boxes. The washboards in two facias grooved together with mouldings over, well fitted and fastened to the floor. The finish around doors and windows to be a five (5) inch facing with half round on it.

The walls around the Church, both on the floor and the Galleries, will be lined to window sill height with worked boards showing as panels, with circular heads; a neat coping moulded over them to form a continuous line with sills.

All the surfaces of the walls of the Church and School, except vestibules and inside walls will be stripped for plastering lathe, with shingling battens, with a large bead on the angles of window jambs and arches of two (2) inches. The Chancel will be lined to the height of the string course interior with panels, and circular heads, and a continuous seat around it, and divided by elbows for single sittings, all of plank, capped with walnut wood; above this, the walls of the Chancel will be finished as an arcade, with shafts, caps, bases and arches, made of plaster or Terra cotta.

The Pews in the Gallery to be the same as described for the floor of the Church. The Gallery fronts will be in continuous range of Gothic panels, cusped cut through two (2) inches thick plank, with soffit, base and coping mouldings fastened to frame; this frame will have sill of four by ten (4 by 10) inches, plate of four by eight (4 by 8) inches, posts and braces four by six (4 by 6) inches, and will be braced over each bracket in the wall.

There will be two floors in the tower, framed with a hatch in centre of five (5) feet square for the passage of bells. Trimmers, double joists, all three by twelve (3 by 12) inches. These floors will set on corbel stones.

The outside doors will be hung on centre pins, with springs, bolts and locks of best quality, suitable. The hardware to be



all of the best quality. All the lumber and timber used for these works to be of the best of their kinds for their places and purposes, to be well seasoned, clear of sap wood, and knots or wind shakes.

### PLASTERER.

The plastering will be three coat work on lathe, the mortar to be made of fresh wood burned lime, and clean sharp sand, well worked and beaten together before being used. The last coat on the walls will be finished with the hand float, hard and roughened like stone, and tinted equally all over of a stone color. The windows will have the jambs and arches run with a mould. The arch piers at each end will have ornate caps. The chancel will have shafts and caps under arches, run over them with cornice, and ribbed ceiling, all with lines of ornament, and with bases and ornamented string course under them.

The ceiling will be finished smooth with white coat; ribs will be run between the rafters in all the vaults of six by eight (6 by 8) inches, and on each side of these ribs, of the main rafters, and of the intersecting arches, lines of flat ornament will be set, of an average width of eight (8) inches by two (2) inches relief. At the points of intersection of ribs will be key stone drop ornaments.

The organ recess will have cornice on each side with ornament, with ribs parallel of six by six inches (6 by 6) moulded.

The vestibules, halls and stairs, walls and ceilings will be finished in the best manner of rough cast work. The School rooms will be in three coat work, finished straight, hard and white, with a cornice in first story of fifteen (15) inches girth, in second story of twenty (20) inches girth, and in third story a cornice of eighteen (18) inches girth. The mortar for deafening the floors to be laid two (2) inches thick, and may be made of clean coal ashes, saw-dust, sand and lime enough in it to make it plastic.

The ceilings in the cellars will be lathed all over and plastered with two coats of hair mortar, and white-washed.

The ribs and mouldings to be truly and neatly run to their several centres or templates. The ornaments correctly set, and all the surfaces to be clean and whole at the completion of the buildings.

### PAINTER.

The wood work in the Church, except the floors, will be stained and varnished, or painted like oak or walnut wood, as may be chosen by the Building Committee. The outside doors oiled and varnished, the bead of the frames the color of the stone used, the sash of oak or walnut. All the wood work of the school to be done in a similar manner as above described.

The windows of the School will be in eight lights of the best quality American glass, bedded on putty and finished with black putty outside.

The windows of the Church will be glazed with quarries, enamelled glass set in lead paning, with a continuous flowered border, all to be weather and water proof. The circular window to be stained glass in flowered design. The windows in stairs will be similar to those in the Church. The light of the Chancel will be a ceiling light, glazed in enamelled glass without color, with a light in the plane of the roof, of Philadelphia cast glass, half an inch thick.

The windows in the Tower be glazed in common glass, and the cellar windows in strong common glass—the frames and sash of them to be painted three coats of stone color mineral paint.

### SLATER.

The roofs to be covered with the best quality American slate, cut to pattern laid three inches (3 in.) cover, on mortar, with crest tile on ridge. A part of the School roof, being that part within that hipped on either end, will be covered with



best double cross tin, painted. The gutters to be of copper, of one sheet wide, set in the best manner. Each course of slate to have wall flashings let into the joints of stone work. Conductor spouts for discharging the water from the roof, will be continued to the ground at six points from the roof, with protecting ends of cast iron, to spout stones set in the pavement; these conductors to be made square, equal to sixteen (16) square inches. The slater will be required to keep the roof in order for one year after the Church is finished; and shall repair any damage done the building by leaks occurring within that period.

### PLUMBER.

The service water pipe to be attached to the main in the street, in the first place for the use of the builders, and permanently for the supply of the water closets, of which two fitted in a complete manner will be set up and finished (with soil pipe to street drains) in the angles formed between the chancel and the School rooms on first story.

The privies in the yard will be set on cast iron soil pipes connected to the street drain, and will have pan seats with supply of water let on by spring seats. All the pipes to be sufficiently deep in the ground to be beyond the reach of frost, say three feet six inches (3 ft. 6 in.) at least. A hydrant will be placed on the south side of the Church, and a wash-hand basin will be set up in the room, appropriated as a vestry-room in the School building, all with pipes of supply and waste pipes of the heaviest and strongest quality of lead pipe. The main and branch pipes for gas to be laid to the points for lighting the Church, and first and second stories of School building.

## IRON WORK.

The Iron work will consist of cast iron columns on each story of the School, to average six (6) inches diameter, with cast iron centre shafts for the organ gallery of six (6) inches square, and window weights of cast iron.

The wrought iron work will be in bolts of one (1 in.) inch diameter, to all intersecting points of roof and brackets of galleries. Strap and stirrup irons at all points of intersection of curved braces—made of two and a half inch by half ( $2\frac{1}{2}$  by  $\frac{1}{2}$ ) inch iron, with through bolts; also, through bolts will be at each three (3) feet distance in the circular braces. Triangular anchors, of strap iron, same size as above, will be fixed on each side of the gallery brackets, notched over a stone and bolted.

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The Tower being built to the height of eighty-four (84) feet, only, as at present specified; there will be two floors above the stairs and a floor at the cornice level of the first stage, and a temporary board roof over it should the work not be proceeded with; a stout stair ladder enclosed to the first floor, and from thence, with a strong railing, to the upper floor.

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The octagon turrets will be roofed in spire form, of timber, and covered with slate, in the manner provided for the roofs.

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There will be three flues for heating and ventilation in the west gable of the Church, and three in the east gable, one of which is to be carried to the top of the Tower, all of which are to be twelve (12) inches diameter.

Under each window of the superstructure on the flanks, there will be a cellar window, one foot (1 ft.) by two feet (2 ft.) in size.